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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/572,908

10/02/2006

Kenric B. Rose

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BERENATO, WHITE & STAVISH
6550 ROCK SPRING DRIVE
SUITE 240
BETHESDA, MD 20817

EXAMINER

MCKINNON, TERRELL L

ART UNIT

PAPER NUMBER

3744

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/572,908	Applicant(s) ROSE, KENRIC B.	
	Examiner TERRELL L. MCKINNON	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/21/2006, 4/11/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, 11-12, 14-18, 22-23, 25-26, 29-31 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Hafner et al. (US 4,367,786).

Re. Cls. 1, 12 and 26, Hafner discloses a pressure vessel assembly for a pressurized fluid system, said pressure vessel assembly comprising:
an enclosed outer casing; at least one fluid accumulator disposed within said outer casing (Figs. 1 and 2); and
at least one cooling passage (Fig. 2) provided adjacent to said at least one fluid accumulator for receiving a flow of a cooling fluid therethrough for cooling said at least one fluid accumulator.

Re. Cl. 2 and 25, Hafner discloses at least one internal tube extending within said outer casing, wherein said at least one fluid accumulator is disposed within said at least one internal tube (Fig. 2 col. 5; 25-40 and col. 3; 43-53).

Re. Cls. 3, 14, 15 and 29, Hafner discloses outer casing includes a substantially tubular housing and end members secured at opposite distal ends of said housing.

Re. Cls. 4, 5, 22, 23, 30 and 31, Hafner discloses at least one internal tube extends between said end members; and wherein said at least one internal tube extends through said end member.

Re. Cls. 6, 16 and 17, Hafner discloses wherein said at least one cooling passage is formed within said at least one internal tube.

Re. Cls. 7 and 18, Hafner discloses wherein said at least one fluid accumulator is disposed within said at least one internal tube with a clearance defining said at least one cooling passage.

Re. Cl. 11, Hafner discloses wherein said pressure vessel defines a compartment there within at least partially filled with a working fluid (col. 1; 20-25 and col. 3; 54-67 and col. 5; 20-24).

Re. Cl. 33, Hafner discloses wherein said pressurized fluid system includes a hydraulic machine having a first port fluidly connected to said at least one fluid accumulator and a second port fluidly connected to working fluid in said compartment (col. 3; 54-67 and col. 4; 55-63).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 8, 9, 13, 19, 20 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hafner et al. (US 4,367,786) in view of Lawrence (US 3,448,792).

Re. Cls 8, 9, 19 and 20 Hafner's invention discloses all of the claimed limitations from above except for at least one spiral wrapping between said at least one internal tube and said at least one fluid accumulator, said at least one spiral wrapping directs said flow of said cooling fluid through said cooling passage for increasing heat transfer from said pressure vessel to said cooling fluid; and wherein said at least one spiral wrapping is made of an elastomeric material.

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However, Lawrence teaches a spiral wrapping and at least one fluid member, said at least one spiral wrapping directs said flow of said cooling fluid through a cooling passage for increasing heat transfer from a vessel to a cooling fluid (Fig. 1-16).

Given the teachings of Lawrence, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the heat exchanger of Hafner with at least one spiral wrapping between said at least one internal tube and said at least one fluid accumulator, said at least one spiral wrapping directs said flow of said cooling fluid through said cooling passage for increasing heat transfer from said pressure vessel to said cooling fluid; and wherein said at least one spiral wrapping is made of an elastomeric material.

Doing so would provide an alternate highly efficient cooling structure for transferring heat between two members.

Re. Cl. 13 and 28, Hafner's invention discloses all of the claimed limitations from above except for wherein said pressure vessel defines a compartment there within between said outer casing and said at least one internal tube, said compartment at least partially filled with a working fluid; and wherein the working fluid is oil.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the heat exchanger of Hafner with wherein said pressure vessel defines a compartment there within between said outer casing and said at least one internal tube, said compartment at least partially filled with a working fluid.

Doing so would provide an obvious modified pressure chamber for immersing fluid accumulators within hydraulic systems.

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7. Claims 10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hafner et al. (US 4,367,786) in view of Lawrence (US 3,448,792) as applied to claims above, and further in view of Randall (US 4,037,650).

Hafner's invention as modified by Lawrence, discloses all of the claimed limitations from above except for wherein said pressurized fluid system includes a cooling fan providing a forced air flow through said at least one cooling passage.

However, Randall teaches a pressurized fluid system having a cooling fan providing a forced air flow through said at least one cooling passage (Fig. 7)

Given the teachings of Randall, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the heat exchanger of Hafner with a cooling fan providing a forced air flow through said at least one cooling passage.

Doing so would increase the heat transfer/cooling efficiency for the pressurized system.

8. Claims 24, 27 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hafner et al. (US 4,367,786) in view of Lawrence (US 3,448,792) as applied to claims above, and further in view of Eulluin et al. (US 5,402,844).

Hafner's invention as modified by Lawrence, discloses all of the claimed limitations from above except for wherein wherein said outer casing includes at least one internal baffle.

However, Eulluin teaches a wherein said outer casing includes at least one internal baffle (Figs. 3, 9, 10 and 14)

Given the teachings of Eulluin, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the heat exchanger of Hafner wherein said outer casing includes at least one internal baffle.

Doing so would provide a turbulent flow path for increasing the heat transfer/cooling efficiency for the pressurized system.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references cited on the PTO892 discloses related limitations of the applicant's claimed and disclosed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TERRELL L. MCKINNON whose telephone number is (571)272-4797. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

April 25, 2010

/Terrell L Mckinnon/

Primary Examiner, Art Unit 3744